

CONFIDENTIAL

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- A composition to contact a breast nipple and to prepare a ductal fluid collection comprising, in bioactive amounts, two or more of an anesthetic agent, a detergent, an exfoliating agent, an antiseptic agent, a dekeratinizing agent, an orifice-dilating agent, a vaso-dilating agent, a muscle-constricting agent, a lactation-stimulating agent, a sphincter-relaxer, an anti-ischemic agent, a calcium channel blocker, a dye or stain to mark the nipple surface, a dye or stain to mark a perimeter of a ductal orifice, and a ductal orifice.
- A method of preparing a breast for ductal fluid collection comprising: contacting the nipple surface with a composition comprising one or more of a detergent, an exfoliating agent, an antiseptic agent, a dekeratinizing agent, an orifice-dilating agent, a vaso-dilating agent, a muscle-constricting agent, a lactation-stimulating agent, a sphincter-relaxer, an anti-ischemic agent, a calcium channel blocker, a dye or stain to mark the nipple surface, a dye or stain to mark a perimeter of a ductal orifice, and a ductal orifice for sufficient time to allow the composition to contact the nipple surface.
- A method of preparing a breast duct for access and collection comprising: contacting a ductal orifice with a tip of a ductal access device comprising one or more of an anesthetic, a detergent, an antiseptic agent, a dekeratinizing agent, an orifice-dilating agent, a muscle-relaxing agent, a muscle-constricting agent, a secretion-stimulating agent, a sphincter-relaxer, an anti-ischemic agent, a calcium channel blocker, a dye or stain to mark the nipple surface, a dye or stain to mark a perimeter of a ductal orifice, and a ductal orifice.

8. A system as in claim 6, further comprising a pad of a geometry to circumscribe a breast nipple to enclose a bioactive agent in contact with a nipple surface and cover the nipple surface for sufficient time for the bioactive agent to act on the nipple surface.
9. A system comprising a ductal access tool and a composition of a formulation capable of coating a tip of the tool to contact a ductal orifice, said composition comprising one or more of an anesthetic, a detergent, an exfoliating agent, an antiseptic agent, a dekeratinizing agent, an orifice-dilating agent, a vaso-dilator, a muscle-relaxing agent, a muscle-constricting agent, a lactation-stimulating agent, a secretion-stimulating agent, a sphincter-relaxer, an anti-ischemic agent, a beta-blocker, a calcium channel blocker, a dye or stain to mark the nipple surface excluding ductal orifices, a dye or stain to mark a perimeter of a ductal orifice, and a dye or stain to mark a ductal orifice.
10. A system comprising a ductal access tool preloaded with a solution comprising an anesthetic for infusion into an accessed breast duct and a composition of a formulation capable of coating a tip of the tool comprising one or more of an anesthetic, a detergent, an exfoliating agent, an antiseptic agent, a dekeratinizing agent, an orifice-dilating agent, a vaso-dilator, a muscle-relaxing agent, a muscle-constricting agent, a lactation-stimulating agent, a secretion-stimulating agent, a sphincter-relaxer, an anti-ischemic agent, a beta-blocker, a calcium channel blocker, a dye or stain to mark the nipple surface excluding ductal orifices, a dye or stain to mark a perimeter of a ductal orifice, and a dye or stain to mark a ductal orifice.
11. A method of preparing a patient for a breast duct fluid collection comprising one or more of applying acupuncture, directing meditation, playing music, applying heat to the breast, warming a room where the patient waits, warming a table or chair where the patient lies or sits, covering the patient with a warm blanket.